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SUBJECT: *2727-S NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY CLEAN CLOSURE EVALUATION REPORT*, WHC-SD-EN-TI-242, REV. 0B PAGE CHANGES

You recently received revision 0B page changes to the subject report that were supposed to be single sided copies. Three of these pages were inadvertently issued with extraneous information printed on the back. Although the extraneous information is crossed out, these pages should be replaced with the enclosed reprinted pages to avoid any possible confusion. There is no change to the front side matter. Thanks and sorry for any inconvenience.

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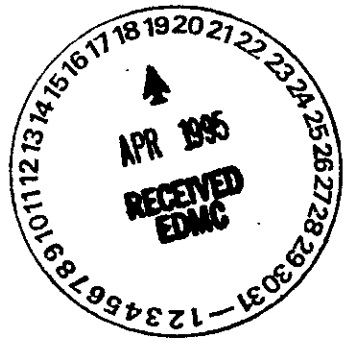

2727-S NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY CLEAN CLOSURE EVALUATION REPORT

1.0 INTRODUCTION

This section identifies the purpose, scope, and format of this report. Comments received from Ecology on Revision 0A of this report have been incorporated into this revision as Appendix E.

1.1 SITE SETTING

The 2727-S Nonradioactive Dangerous Waste Storage (NRDWS) Facility was a *Resource Conservation and Recovery Act of 1976* interim status treatment, storage, and disposal (TSD) unit located in the 200 West Area of the Hanford Site. This TSD unit stored containerized (drummed), nonradioactive dangerous waste. Soil sampling of the 2727-S NRDWS Facility for purposes of unit closure began in August 1992 in accordance with the 2727-S NRDWS Facility Closure Plan, Revision 3 (DOE-RL 1988a) and was completed in September 1992.

To avoid extensive sampling, Revision 3 of the closure plan reflected an agreement with the Washington State Department of Ecology (Ecology) to dispose of unit structures and of the first 6 inches of soil immediately beneath the structures as WT02, Washington State dangerous waste. Closure verification sampling consisted of sampling substructure soils that would remain after demolition and after the planned soil removal (Ecology 1991). Sampling was performed prior to site demolition to prevent disturbing the underlying soil.

Demolition of the metal building and concrete storage pad that constituted the TSD unit structure began immediately upon the completion of sampling. Removal to an offsite landfill of the bulk of demolition waste and waste soils was completed in September 1992. Demolition debris and containerized, nonregulated waste soils remain at the site. To conclude physical closure, the site requires only final disposition of the containerized soils and demolition debris, and site restoration (i.e., regrading and revegetation).

1.2 PURPOSE AND SCOPE

This report presents the analytical results of 2727-S NRDWS Facility closure verification soil sampling and compares these results to clean closure criteria. The results of this comparison will determine if clean closure of the unit is regulatorily achievable.

This report also serves to notify regulators that concentrations of some analytes at the site exceed sitewide background threshold levels (DOE-RL 1993b) and/or the limits of quantitation (LOQ). These levels were established within the closure plan (DOE-RL 1988a) as the initial cleanup levels for this unit. Constituents exceeding these initial levels are identified in Section 2.0.

2.3.1 Reported Organochlorine Pesticide/PCBs

There were no PCB detections. The only organochlorine pesticide reported above detection was 4,4'-DDT. 4,4'-DDT was reported in five samples. The listed concentrations in Table 4 were given a J qualifier during data validation as being estimated values because of high matrix spike (MS)/matrix spike duplicate percent recovery (OSM 1992a). The detected concentrations were also low, being either near or below the PQL of 8 ppb for 4,4'-DDT.

Table 4. Detected Organochlorine Pesticide/PCB Analytes.

HEIS No.	Detected analyte				>PQL[b]	MTCA method A & B cleanup levels[b]		
	Name	CAS No.	Conc. µg/kg (ppb)	Qualifier code[a]		>A	>B	
							>Carc	>Tox
B07532	4,4'-DDT	50-29-3	4.61	J	No	No	No	No
B07550	4,4'-DDT		5.26	P,J	No	No	No	No
B07551	4,4'-DDT		6.34	P,J	No	No	No	No
B07552	4,4'-DDT		8.26	P,J	No	No	No	No
B07560	4,4'-DDT		4.71	J	No	No	No	No

Notes:
MTCA = Model Toxics Control Act.
[a]PQL = Practical Quantitation Limit (EPA 1990).
[a]Organic qualifier code: J = Estimated, P = Concentration given is the lower of the two gas chromatograph/mass spectrometry columns (EPA 1991).
[b]Appendix D of this report provides MTCA Method A and B toxicity and carcinogenicity soil cleanup levels and PQL values.

2.3.2 Organochlorine Pesticide/PCB Concentrations Regarding Clean Closure

Laboratory analysis for organochlorine pesticide/PCBs detected only 4,4'-DDT, and then only at low, estimated concentrations. No 4,4'-DDT concentration exceeds the MTCA Method B residential health-based cleanup levels for toxicity or carcinogenicity. Therefore, organochlorine pesticide/PCB concentrations do not represent an impediment to clean closure.

2.4 HERBICIDE DATA SUMMARY

This section identifies and reconciles by sample number herbicide concentrations indicated in Appendix A, Table AT-3 as above detection.

2.5 INORGANIC ANALYTE DATA SUMMARY

This section identifies, by sample number, inorganic analyte concentrations (primarily metals) indicated in Appendix A, Table AT-4 as above detection and as exceeding Hanford Site background threshold values (Appendix B, where available).

2.5.1 Screening Criteria

As with other analytes, inorganic concentrations were initially compared against Hanford Site background threshold values (DOE/RL 1993B). For some inorganic carcinogens (e.g., arsenic and beryllium), the calculated MTCA Method B residential, cleanup level is below the sitewide threshold value. In such cases, the cleanup level is assumed to be natural background as determined by the Hanford Sitewide background threshold. Therefore, arsenic or beryllium detections, which were all below their respective background thresholds of 9 ppm and 1.8 ppm, will require no further evaluation.

The results of local background sampling, taken as a portion of closure verification sampling, have been considered where Hanford Site background threshold values have not been calculated and where toxicological [reference dose (RfD) or carcinogenic potency factor (CPF)] information is not available to calculate health-based cleanup levels.

In cases where the highest detected concentration is B qualified, the analyte will be listed at Table 6 only once at the highest concentration. The B qualifier is used when the reported value has been obtained from a reading above instrument detection limit (IDL) but below contract laboratory program required detection limit (CRDL) (EPA 1991). Although B qualified data are usable, they represent concentrations below levels contractually required to be quantifiable and are below MTCA B cleanup levels. Tin is listed only at its highest concentration because all tin concentrations are B qualified. Some boron and cadmium detections were also B qualified; however, with these analytes, the B qualified data were not the highest reported concentrations.

2.5.2 Reported Analytes

Some inorganic analytes were so frequently reported that they will be addressed in Table 6 at only their highest concentration. This will demonstrate that even at their highest concentrations, none of these analytes exceed MTCA Method B residential health-based cleanup levels. Less commonly reported analytes will be individually addressed in Table 6. Silicon is not listed in Table 6 but is narratively addressed.

2.5.2.1 Frequently Reported Inorganic Analytes. Tin, boron, strontium, silver, and silicon were each reported in virtually every soil sample, including local background samples. These analytes, except silicon which is narratively addressed, are listed in Table 6 only at their highest reported concentration. Of the analytes addressed in Table 6, only silver has a Hanford Site background threshold as an initial comparison value. All but